OCCUPATIONAL ANALYSES SERIES

Motor Vehicle Body Repairer

2005

Human Resources and Skills Development Canada
Ressources humaines et Développement des compétences Canada

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Occupational Analyses Series

Motor Vehicle Body Repairer (Metal and Paint)

2005

Trades and Apprenticeship Division

Human Resources
Partnerships Directorate

Division des métiers et de l'apprentissage

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The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this Occupational Analysis as the national standard for the occupation of Motor Vehicle Body Repairer (Metal and Paint).

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OTHER RELATED OCCUPATIONAL TITLES

This analysis covers tasks performed by motor vehicle body repairers whose occupational title has been identified by some provinces and territories of Canada under the following names:

- Auto Body and Collision Damage Repairer (Branch 1)
- Auto Body Repairer
- Auto Body Repairer and Painter
- Auto Body Technician – Collision and Refinishing
- Automotive Collision Repair Technician
- Motor Vehicle Body Repair

LIST OF RED SEAL NATIONAL OCCUPATIONAL ANALYSES

TITLE	NOC* Code
Appliance Service Technician (1997)	7332
Automotive Painter (2005)	7322
Automotive Service Technician (2005)	7321
Baker (1997)	6252
Boilermaker (2003)	7262
Bricklayer (2000)	7281
Cabinetmaker (2000)	7272
Carpenter (1998)	7271
Cement Finisher (1995)	7282
Construction Electrician (2003)	7241
Cook (2003)	6242
Electrical Rewind Mechanic (1999)	7333
Electronics Technician – Consumer Products (1997)	2242
Farm Equipment Mechanic (2000)	7312
Floorcovering Installer (1997)	7295
Glazier (2004)	7292
Hairstylist (1997)	6271
Heavy Duty Equipment Technician (2004)	7312
Industrial Electrician (2003)	7242
Industrial Instrument Mechanic (2000)	2243
Industrial Mechanic (Millwright) (1999)	7311
Insulator (Heat and Frost) (2000)	7293
Ironworker (Generalist) (1993)	7264
Lather (Interior Systems Mechanic) (2002)	7284
Machinist (1998)	7231
Metal Fabricator (Fitter) (2003)	7263
Mobile Crane Operator (1997)	7371

Motorcycle Mechanic (1995)	7334
Motor Vehicle Body Repairer (Metal and Paint) (2005)	7322
Oil Burner Mechanic (1997)	7331
Painter and Decorator (2000)	7294
Partsperson (1995)	1472
Plumber (2003)	7251
Powerline Technician (2004)	7244
Recreation Vehicle Mechanic (2000)	7383
Refrigeration and Air Conditioning Mechanic (2004)	7313
Roofer (1997)	7291
Sheet Metal Worker (1997)	7261
Sprinkler System Installer (2003)	7252
Steamfitter – Pipefitter (1996)	7252
Tilesetter (2004)	7283
Tool and Die Maker (1997)	7232
Transport Trailer Technician (2003)	7321
Truck and Transport Mechanic (2000)	7321
Welder (2004)	7265

* National Occupational Classification

Requests for these publications should be forwarded to:

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140 Promenade du Portage, Phase IV, 5th Floor
Gatineau, Quebec K1A 0J9

These publications are also available to order or download online at: **www.red-seal.ca.**

FOREWORD

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to co-operate with provincial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. To this end, Human Resources and Skills Development Canada (HRSDC) sponsors a program, under the guidance of the Canadian Council of Directors of Apprenticeship (CCDA), to develop a series of occupational analyses.

The Occupational Analysis Program has the following objectives:

- to identify and group the tasks performed by skilled workers in particular occupations;
- to identify those tasks that are performed by skilled workers in every province and territory;
- to develop instruments for use in the preparation of Interprovincial Standards "Red Seal" Examinations and curricula for training leading to the certification of skilled workers;
- to facilitate the mobility, in Canada, of apprentices and skilled workers;
- to supply employers and employees, and their associations, industries, training institutions and governments with analyses of the tasks performed in particular occupations.

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GUIDE TO ANALYSIS

DEVELOPMENT OF ANALYSIS

A draft analysis is developed by a committee of industry experts in the field led by a team of facilitators. This draft analysis identifies all the tasks performed in the occupation.

The draft is translated and reviewed by the NOA Team of HRSDC. A copy of this analysis is then forwarded to provincial/territorial authorities for review by specialists in the field. Their recommendations are assessed and incorporated into the final draft.

The occupational analysis is published in both official languages.

STRUCTURE OF ANALYSIS

To facilitate understanding of the nature of the occupation, the work performed is divided into the following divisions:

BLOCK – is the largest division within the analysis and reflects a distinct operation relevant to the occupation.

TASK – is the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform to complete a specific assignment within a "BLOCK".

SUB-TASK – is the smallest division into which it is practical to subdivide any work activity and, combined with others, fully describes all duties constituting a "TASK".

Supporting Knowledge & Abilities

The elements of skill and knowledge that an individual must acquire to adequately perform the sub-task.

Trends

Any shifts or changes in technology that affect the block.

Related Components

All components related to a specified task being undertaken by the motor vehicle body repairer.

Tools and Equipment

All tools and equipment necessary for the motor vehicle body repairer to complete a task.

VALIDATION METHOD

At the request of the Canadian Council of Directors of Apprenticeship (CCDA), the Standardization Sub-committee developed a method for validating the Red Seal National Occupational Analyses.

A draft of the analysis is sent to all jurisdictions for validation. Each jurisdiction rates the sub-tasks and applies percentage ratings to blocks and tasks. This method for the validation of the National Occupational Analysis identifies common core tasks across Canada for a specific occupation. This feature facilitates the weighting of the Interprovincial Standards "Red Seal" Examinations.

DEFINITIONS

YES: the sub-task is performed by workers in the occupation in a specific jurisdiction.

NO: the sub-task is not performed by workers in the occupation in a specific jurisdiction.

BLOCK %: the average number of questions (items), derived from the collective decision made by workers within the occupation from all areas of Canada, that will be placed on an interprovincial examination to assess each block of the analysis.

TASK %: the average number of questions (items), derived from the collective decision made by workers within the occupation from all areas of Canada, that will be placed on an interprovincial examination to assess each task of the analysis.

NV: Not Validated by a province/territory.

ND: Not Designated in a province/territory.

PROVINCIAL/TERRITORIAL ABBREVIATIONS

NL:	Newfoundland and Labrador
NS:	Nova Scotia
PE:	Prince Edward Island
NB:	New Brunswick
QC:	Quebec
ON:	Ontario
MB:	Manitoba
SK:	Saskatchewan
AB:	Alberta
BC:	British Columbia
NT:	Northwest Territories
YT:	Yukon
NU:	Nunavut

COMMON CORE

The criteria for determining common core depend on the performance of sub-tasks. If at least 70% of the responding jurisdictions (excluding NVs and NDs) perform a sub-task, it shall be considered common core.

Interprovincial Standards "Red Seal" Examinations are based on the common core identified through this validation process. Validation identifies what will be assessed through the interprovincial examination.

BLOCKS AND TASKS WEIGHTING (APPENDIX D)

This appendix represents the block and task percentages as submitted by each jurisdiction.

Each jurisdiction, with the use of a provincial/territorial occupational advisory committee, validates the content, places percentages on blocks and tasks, and indicates whether or not the sub-tasks are performed by the skilled workers within the occupation. The results of this exercise are submitted to the NOA Team who then analyzes the data and develops this appendix which provides the individual jurisdictional validation results as well as the national averages of all responses.

PIE CHART (APPENDIX E)

The graph depicts the national percentages assigned to blocks in the analysis.

SCOPE OF THE
MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) OCCUPATION

Motor vehicle body repairers (metal and paint) repair and restore damaged motor vehicle bodies as well as their collision-damaged mechanical and structural parts. Motor vehicle body repairers assess body damage and make repair estimates and calculations. Their repair work may range from correcting minor structural and cosmetic scratches and dents to fixing extensive structural damage to motor vehicles. Vehicle parts that are damaged beyond repair are replaced. The alignment and replacement of suspension and steering components is also a part of this trade. Restoring interior components of vehicles also falls within the scope of duties of these tradespeople. They also work with electronic components and passenger protection systems such as seat belts and air bags.

In this sector, most motor vehicle body repairers work in private enterprises or are self-employed. Journeypersons may be employed by body shops, auto and truck dealerships, custom shops, and trucking and bus companies. In larger shops or dealerships, there may be a division of responsibilities among the team of repair professionals. Some may work exclusively on collision damage repair, frame straightening, painting, suspension, mechanical, or auto glass installation. Generally in smaller shops, journeypersons tend to be responsible for a wider range of these duties. While they may work as part of the repair team, which includes other motor vehicle body repairers, automotive painters, automotive service technicians, and others in the automotive sector, journeypersons tend to carry out their duties alone.

Motor vehicle body repairers require proficiency with a variety of tools and equipment, some of which are technologically advanced. Hand and power tools are used in the repair and replacement of motor vehicle parts. Welding and soldering equipment are also used. Motor vehicle body repairers may work with a number of materials such as metal, glass, plastic and composites. Surface repairs require the application of body fillers. In addition, motor vehicle body repairers may prepare surfaces for refinishing and apply a variety of appropriate refinishing products. They must also have refinishing application and detailing skills.

Working environments vary in this trade. Typically, employees work indoors in an environment that can be noisy and dusty. However, many shops are well ventilated to avert health risks from dust and fumes. Health and safety are important issues for these tradespeople as they are frequently in contact with chemicals (e.g. paints, compounds, solvents) and physical hazards (e.g. frame equipment, sharp metal). Ongoing safety training and a good knowledge of safety standards and regulations are important.

Key attributes for people entering this trade are good communication skills, mechanical aptitudes, problem solving skills, an eye for detail, good colour vision, computer literacy and a commitment to ongoing training. Good physical condition and agility are important because the work often requires considerable standing, crawling, lifting, climbing, pulling and reaching.

With experience, journeypersons may move into supervisory positions, start their own business, or become auto damage appraisers for insurance companies. Some of the skills gained as a motor vehicle body repairer may be transferred to other occupations such as sheet metal worker or automotive service technician.

OCCUPATIONAL OBSERVATIONS

Technological advancements, design modifications, passenger safety and innovations in manufacturing continue to change the design and construction of motor vehicles.

Most vehicles built today employ unibody construction for passenger safety. Each body panel has an important place in the integral strength of the vehicle. Components that are now part of the unibody vehicle structure have increased the complexity of repair technology.

While motor vehicle body repairers still use heavy frame machines and simple gauges to repair heavy collision damage, they now tend to rely more on factory specification charts and use more sophisticated measuring and repair systems.

Tools, equipment and materials have advanced technologically. Many vehicles today are comprised of more than just base metals and glass. Many manufacturers increasingly use composites, aluminium and high-strength alloys. Hybrid and alternate fuel vehicles are becoming more prevalent in the marketplace.

Other new technologies include materials such as multichromatic paints, UV curing primers, direct-to-metal primers/surfacers and cycle-time reduction clearcoats. UV drying clearcoat technology has been introduced.

SAFETY

Safe working procedures and conditions, accident prevention and the preservation of health are of primary importance to industry in Canada. These responsibilities are shared and require the joint efforts of government, employers and employees. It is imperative that all parties are aware of circumstances and conditions that may lead to injury or harm. Safe learning experiences and environments can be created by controlling the variables and behaviours that may contribute to accidents or injury.

It is generally recognized that a safety-conscious attitude and work practices contribute to a healthy, safe and accident-free working environment.

It is imperative to apply and be familiar with the Occupational Health and Safety Acts and Workplace Hazardous Material Information System (WHMIS) Regulations. As well, it is essential to determine workplace hazards and take measures to protect oneself, co-workers, the public and the environment.

As safety education is an integral part of training in all jurisdictions, personal safety practices are not recorded in this document. However, the technical safety aspect relating to each task and sub-task are included throughout this analysis.

ANALYSIS

BLOCK A

OCCUPATIONAL SKILLS

Trends: *More specialized tools made for specific tasks. More awareness around the importance of personal protective equipment. More knowledgeable consumers. More computer-based work organization such as on-line ordering, computerized estimating and databases. More standardized procedures.*

Task 1 Uses documentation.

Related Components: Manuals, bulletins, flow charts, estimates, work orders, manufacturers' specifications, warning labels, WHMIS, MSDS.

Tools and Equipment: Computer, software, fax machine, calculator, telephone.

Sub-task

1.01 Uses manufacturers' specifications and repair procedures.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

Supporting Knowledge & Abilities

1.01.01	knowledge of sources of specifications and information
1.01.02	ability to access specifications and information
1.01.03	ability to interpret manufacturers' specifications and repair procedures
1.01.04	ability to interpret and apply information from hard-copy and on-line technical manuals

Sub-task

1.02 Interprets estimates.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

1.02.01	knowledge of industry terminology
1.02.02	knowledge of vehicle construction
1.02.03	knowledge of estimate formats

Sub-task

1.03 Uses work orders.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

1.03.01	knowledge of vehicle construction
1.03.02	knowledge of industry terminology
1.03.03	knowledge of work order format
1.03.04	ability to follow work order

Sub-task

1.04 Interprets safety and environmental regulations.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

1.04.01	knowledge of location of safety and environmental regulations
1.04.02	knowledge of Workplace Hazardous Materials Information System (WHMIS) and Material Safety Data Sheet (MSDS) documents

	1.04.03	ability to interpret safety symbols
	1.04.04	ability to interpret federal, provincial/territorial and municipal regulations

Task 2 Uses tools and equipment.

Related Components: Applies to all components.

Tools and Equipment: See Appendix A.

Sub-task

2.01 Uses hand tools. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.01.01	knowledge of types of hand tools such as removal and installation, bumping and straightening, sanding and material application tools
2.01.02	knowledge of limitations of use of hand tools
2.01.03	knowledge of torque specifications
2.01.04	ability to maintain hand tools
2.01.05	ability to store hand tools
2.01.06	ability to recognize worn, broken and defective hand tools

Sub-task

2.02 Uses power tools. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.02.01	knowledge of types of power tools such as pneumatic, electric and hydraulic

2.02.02	knowledge of operating procedures
2.02.03	knowledge of limitations of use of power tools
2.02.04	ability to maintain power tools
2.02.05	ability to store power tools
2.02.06	ability to recognize hazards such as frayed cords, cracked case and leaking lines

Sub-task

2.03 Uses welding equipment.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.03.01	knowledge of types of welding equipment such as oxyacetylene, Gas Metal Arc Welding (GMAW [MIG]) and plastic
2.03.02	knowledge of operating procedures
2.03.03	knowledge of welding consumable materials such as wire, shield gases and tips
2.03.04	ability to identify material to be welded
2.03.05	ability to perform applicable welding procedures
2.03.06	ability to maintain welding equipment
2.03.07	ability to store welding equipment
2.03.08	ability to recognize potential hazards

Sub-task

2.04 Uses straightening equipment. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.04.01	knowledge of types of straightening equipment such as benches, floor mounted and portable
2.04.02	knowledge of vehicle construction
2.04.03	knowledge of repair sequence
2.04.04	knowledge of measuring equipment
2.04.05	ability to secure and anchor vehicle
2.04.06	ability to attach equipment to vehicle
2.04.07	ability to maintain straightening equipment
2.04.08	ability to store straightening equipment
2.04.09	ability to recognize potential hazards

Sub-task

2.05 Uses lifting equipment. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.05.01	knowledge of lifting equipment such as hoists, jack stands, floor jacks and door jacks
2.05.02	knowledge of limitations of lifting equipment
2.05.03	knowledge of applications of lifting equipment
2.05.04	ability to recognize safe lifting locations or points

2.05.05	ability to maintain lifting equipment with techniques such as lubricating, checking fluid levels and cleaning
2.05.06	ability to locate and recognize damaged components

Sub-task

2.06 Uses measuring equipment. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.06.01	knowledge of types of measuring equipment such as trams, centering gauges and lasers
2.06.02	knowledge of vehicle construction
2.06.03	knowledge of limitations of use of measuring equipment
2.06.04	ability to interpret and apply manufacturers' specifications
2.06.05	ability to use industry-related computer software
2.06.06	ability to perform basic calculations
2.06.07	ability to set up measuring system
2.06.08	ability to maintain measuring equipment
2.06.09	ability to store measuring equipment
2.06.10	ability to recognize potential hazards

Sub-task

2.07 Uses refinishing tools and equipment.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.07.01	knowledge of air pressures
2.07.02	knowledge of types of refinishing tools and equipment
2.07.03	knowledge of paint systems
2.07.04	ability to use personal fresh air system
2.07.05	ability to set up spray gun
2.07.06	ability to set up paint booth
2.07.07	ability to use paint mixing equipment such as agitators and scales
2.07.08	ability to use paint-related computer software
2.07.09	ability to maintain compressors
2.07.10	ability to maintain spray gun
2.07.11	ability to maintain paint booth

Sub-task

2.08 Uses personal protective equipment (PPE).

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

2.08.01	knowledge of types of PPE such as hearing, eye, skin and breathing protection
2.08.02	knowledge of PPE operations
2.08.03	knowledge of workplace safety and health regulations

	2.08.04	ability to inspect and maintain PPE
	2.08.05	ability to store PPE
	2.08.06	ability to recognize worksite hazards

Task 3 Organizes work.

Related Components: Manuals, bulletins, flow charts, estimates, work orders, manufacturers' specifications, warning labels, WHMIS, MSDS, government safety regulations.

Tools and Equipment: Safety and first aid equipment, office equipment (computers, calculators, fax machine, telephone, intercom), digital camera, cleaning equipment, scheduling system.

Sub-task

3.01 Prepares damage estimate. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	no	yes	no	yes	yes	yes	yes	yes	yes	NV

3.01.01	knowledge of vehicle construction
3.01.02	knowledge of industry terminology
3.01.03	knowledge of repair procedures
3.01.04	ability to assess visible damage
3.01.05	ability to assess hidden damage
3.01.06	ability to determine required parts and material
3.01.07	ability to determine required labour
3.01.08	ability to determine required sublet
3.01.09	ability to determine required miscellaneous costs such as hazardous waste disposal fees, freight fees and taxes
3.01.10	ability to communicate with suppliers
3.01.11	ability to locate and interpret manufacturer-specific documentation

3.01.12	ability to perform calculations
3.01.13	ability to use computers and office equipment

Sub-task

3.02 Orders parts and materials.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	no	yes	yes	yes	yes	no	no	yes	yes	NV

3.02.01	knowledge of vehicle construction
3.02.02	knowledge of industry terminology
3.02.03	knowledge of parts and materials
3.02.04	knowledge of repair procedures
3.02.05	ability to communicate with suppliers
3.02.06	ability to locate and interpret documentation such as parts manuals, computer databases and work orders

Sub-task

3.03 Organizes parts and materials.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

3.03.01	knowledge of vehicle construction
3.03.02	knowledge of repair procedures
3.03.03	ability to identify parts and materials
3.03.04	ability to locate parts and materials
3.03.05	ability to store and inventory parts and materials
3.03.06	ability to interpret work order

Sub-task

3.04 Communicates with others. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

3.04.01	ability to use conflict resolution techniques
3.04.02	ability to explain technical information in layperson's terms
3.04.03	ability to communicate with related professionals such as tradespeople, appraisers and partspeople
3.04.04	ability to mentor apprentices
3.04.05	ability to operate communication equipment such as fax machines, two-way radios, computers and application software

Sub-task

3.05 Prepares work area. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

3.05.01	knowledge of repair procedures
3.05.02	ability to perform housekeeping
3.05.03	ability to select tools and equipment
3.05.04	ability to lay out tools and equipment

Sub-task

3.06 Maintains safe work environment.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

3.06.01	knowledge of WHMIS and MSDS and their locations
3.06.02	knowledge of PPE
3.06.03	knowledge of workers' rights and responsibilities
3.06.04	knowledge of location of safety equipment such as eye wash station, fire fighting equipment and first aid kit
3.06.05	knowledge of emergency procedures
3.06.06	knowledge of disposal and recycling procedures
3.06.07	ability to recognize fire hazards
3.06.08	ability to recognize hazardous settings
3.06.09	ability to recognize personal injury hazards
3.06.10	ability to communicate potential hazards
3.06.11	ability to perform basic first aid
3.06.12	ability to operate ventilation systems
3.06.13	ability to keep work area clean and free from clutter

Task 4 Applies corrosion protection material.

Related Components: Wax oil, zinc oxide primer, etch primers, zinc chromate primer, vinyl wash primer, epoxy primer, dielectric grease, rubberized undercoating, gravel guards, e-coat, cold galvanized coating, drip check, seam sealer, body sealant.

Tools and Equipment: PPE (eye and hand protection, respirator), application equipment, ventilation systems.

Sub-task

4.01 Applies weld through primer. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

4.01.01	knowledge of vehicle construction
4.01.02	knowledge of application procedures
4.01.03	knowledge of isocyanates
4.01.04	ability to interpret product manufacturers' recommended application procedures
4.01.05	ability to recognize types and extent of corrosion

Sub-task

4.02 Applies corrosion protection for electrical components. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

4.02.01	knowledge of vehicle electrical systems and components
4.02.02	knowledge of material types
4.02.03	ability to interpret application procedures
4.02.04	ability to recognize types and extent of corrosion

Sub-task

4.03 Applies corrosion inhibitors. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

4.03.01	knowledge of corrosion inhibitors such as undercoating, zinc primers, vinyl primers and etch primers
4.03.02	knowledge of vehicle construction
4.03.03	ability to select material such as metal etch, epoxy and zinc chromate
4.03.04	ability to interpret application procedures
4.03.05	ability to apply seam sealers and undercoating
4.03.06	ability to use application equipment such as spray gun, applicator tools, brush and aerosols
4.03.07	ability to recognize types and extent of corrosion
4.03.08	ability to maintain and store equipment

Task 5 Repairs and replaces trim.

Related Components: Pin stripes, decals, mouldings, ground effects, spoilers, grills, bezels, after market accessories, vinyl roof, mud flaps, name plates and emblems, ornaments, grab handles, garnish mouldings, panel trim, scuff plates, kick pads, roof liners, bug deflector.

Tools and Equipment: Safety and first aid equipment, standard tool kit, pneumatic moulding remover, piano wire, putty knife, razor knife, eraser wheel, die grinder, drill, razor blades and holder, heat gun.

Sub-task

5.01 Removes trim.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

5.01.01	knowledge of types of trim
5.01.02	knowledge of vehicle construction
5.01.03	knowledge of fastening systems such as clips, adhesives and screws
5.01.04	ability to perform trim removal procedures

Sub-task

5.02 Installs trim.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

5.02.01	knowledge of types of trim
5.02.02	knowledge of vehicle construction
5.02.03	knowledge of fastening systems such as clips, adhesives and screws
5.02.04	knowledge of trim function
5.02.05	ability to prepare surface for trim installation
5.02.06	ability to prepare trim for installation
5.02.07	ability to perform trim installation procedures

Sub-task

5.03 Repairs trim. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

5.03.01	knowledge of types of trim
5.03.02	knowledge of trim function
5.03.03	knowledge of repair materials and equipment
5.03.04	ability to identify trim composition
5.03.05	ability to perform trim repair procedures such as plastic welding, heating, restoring shape and matching texture and patterns

Task 6 Performs final check.

Related Components: Applies to all components.

Tools and Equipment: Not applicable.

Sub-task

6.01 Inspects vehicle visually. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

6.01.01	knowledge of vehicle construction and components
6.01.02	knowledge of panel alignment and fit
6.01.03	ability to recognize industry standards such as colour, symmetry and appearance
6.01.04	ability to locate and identify imperfections

Sub-task

6.02 Performs operational check. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

6.02.01	knowledge of components' operation
6.02.02	ability to recognize component failures

Sub-task

6.03 Conducts road test. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

6.03.01	knowledge of road test procedures
6.03.02	ability to recognize acceptable vehicle performance
6.03.03	ability to legally operate a motor vehicle
6.03.04	ability to identify faults such as squeaks, leaks, rattles and wind noise
6.03.05	ability to check for road worthiness such as lights, alignment, exhaust and brakes
6.03.06	ability to recognize vehicle operation warning indicators such as ABS, air bag and "check engine" light

BLOCK B

FRAME AND STRUCTURAL COMPONENTS

Trends: *Significant advancement in measuring and repair procedures allowing for repair of more severely damaged vehicles with greater accuracy. Becoming more cost effective to replace than to repair.*

Task 7 Repairs structural components.

Related Components: Engine compartment, frame rails, rocker panels, A, B, and C pillars, windshield glass and moveable panel openings, passenger compartment, luggage compartment, structural glass, non-structural components such as outer panels, fascias and interior components.

Tools and Equipment: Safety and first aid equipment, standard tool kit, structural straightening equipment (frame bench, hydraulic equipment, clamps and fixtures, chains), welding and cutting equipment, heating equipment, power tools, hydraulic jacking equipment, measuring equipment, surge protectors.

Sub-task

7.01 Performs vehicle setup. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.01.01	knowledge of anchoring techniques for vehicle types such as unibody or frame
7.01.02	knowledge of anchoring equipment
7.01.03	ability to identify vehicle anchoring points
7.01.04	ability to anchor vehicle to structural repair device
7.01.05	ability to set up measuring system

Sub-task

7.02 Identifies extent of damage.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.02.01	knowledge of basic mathematics
7.02.02	ability to interpret measurements
7.02.03	ability to compare actual measurements to manufacturers' specifications

Sub-task

7.03 Removes components for access.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.03.01	knowledge of removal procedures
7.03.02	ability to identify components to be removed
7.03.03	ability to operate specialty tools such as engine lifts, pullers and spring compressors
7.03.04	ability to store removed components

Sub-task

7.04 Straightens structural components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.04.01	knowledge of types of damage

7.04.02	knowledge of structural component composition such as high tensile steel, aluminium, magnesium and fibre reinforced composite
7.04.03	ability to use repair clamps and fixtures
7.04.04	ability to correct damage by pulling structures, stress relieving and reshaping
7.04.05	ability to identify fastening points for clamps and fixtures
7.04.06	ability to fasten clamps and fixtures

Sub-task

7.05 Verifies measurement and fit.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.05.01	knowledge of manufacturers' specifications for structural dimensions
7.05.02	knowledge of allowable tolerances
7.05.03	ability to visually inspect fit
7.05.04	ability to fit and align parts
7.05.05	ability to measure and compare to manufacturers' specifications

Sub-task

7.06 Installs components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.06.01	knowledge of torque specifications
7.06.02	knowledge of installation procedures

	7.06.03	knowledge of reusable and non-reusable fasteners and components
	7.06.04	ability to follow installation sequence
	7.06.05	ability to fit components

Task 8 Replaces structural components.

Related Components: Engine compartment, sub-frames, engine cradles, frame rails, rocker panels, A, B and C pillars, windshield glass and moveable panel openings, passenger compartment, luggage compartment, structural glass, non-structural components such as outer panels, fascias and interior components.

Tools and Equipment: Safety and first aid equipment, standard tool kit, structural straightening equipment (frame bench, hydraulic equipment, clamps and fixtures, chains), welding equipment, heating equipment, cutting equipment, power tools, hydraulic jacking equipment, measuring equipment, welding blanket, surge protectors.

Sub-task

8.01 Removes structural components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

8.01.01	knowledge of vehicle construction
8.01.02	knowledge of manufacturers' removal procedures
8.01.03	ability to identify areas for sectioning
8.01.04	ability to perform removal procedures such as cutting, pneumatic chiselling, unfastening and removing spot welds

Sub-task

8.02 Installs structural components.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

Supporting Knowledge & Abilities

8.02.01	knowledge of installation procedures
8.02.02	knowledge of manufacturers' specifications
8.02.03	knowledge of measuring techniques
8.02.04	knowledge of allowable tolerances
8.02.05	knowledge of materials and composites
8.02.06	ability to prepare structural components
8.02.07	ability to perform installation techniques such as welding, bonding and bolting
8.02.08	ability to align and fit

BLOCK C

OUTER BODY PANELS

Trends: *Increased use of lighter materials such as composite and aluminium in panel composition. Becoming more cost effective to replace than to repair. Increased use of adhesives. Some manufacturers specify the use of silicon bronze welding techniques at non-structural joint welds.*

Task 9 Repairs panels.

Related Components: Finish panels, panel extensions, door shells, door skins, roof panels, fenders, hood panels, bumpers, deck lids, quarter panel, rocker panel, screws, bolts, nuts, clips, adhesives, filler materials, stone chip protective materials, welding materials.

Tools and Equipment: Safety and first aid equipment, standard tool kit, welding equipment, hammer, dolly, pry bars, picks, dent puller, jacks, hydraulic equipment, air chisel, air drill.

Sub-task

9.01 Prepares panels for repair. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.01.01	knowledge of repair materials
9.01.02	knowledge of cleaning products
9.01.03	knowledge of abrasives and strippers
9.01.04	ability to determine panel composition
9.01.05	ability to identify top coat
9.01.06	ability to identify substrate
9.01.07	ability to remove panel components such as door handles and fender flares
9.01.08	ability to clean panel
9.01.09	ability to use abrasives and strippers

Sub-task

9.02 Reshapes panels.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.02.01	knowledge of types and severity of damage such as stretches, buckles and tears
9.02.02	knowledge of reshaping procedures such as heating, cold repair and pushing/pulling
9.02.03	ability to determine panel composition
9.02.04	ability to visualize desired outcome
9.02.05	ability to restore panel contours by techniques such as shrinking, hammer and dolly, patching and heating

Sub-task

9.03 Aligns panels.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.03.01	knowledge of alignment sequence
9.03.02	ability to restore manufacturer-specified gaps, seams and contours

Sub-task

9.04 Applies repair materials.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.04.01	knowledge of application procedures
9.04.02	knowledge of types of repair materials and their properties

9.04.03	ability to select required repair materials
9.04.04	ability to prepare repair materials

Sub-task

9.05 Shapes repair materials. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.05.01	knowledge of types of repair materials and their properties
9.05.02	knowledge of abrasives
9.05.03	ability to sand material to desired contour by hand, block and machine sanding

Task 10 Replaces panels.

Related Components: Finish panels, panel extensions, door shells, door skins, roof panels, fenders, hood panels, bumpers, deck lids, quarter panel, rocker panel, trim, electrical components, screws, bolts, nuts, clips, adhesives, stone chip protective materials, welding materials.

Tools and Equipment: Safety and first aid equipment, standard tool kit, power tools, welding and cutting equipment, applicators, hydraulic jacking equipment.

Sub-task

10.01 Removes panels. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

10.01.01	knowledge of removal procedures
10.01.02	ability to identify panel composition
10.01.03	ability to remove necessary components for access

Sub-task

10.02 Prepares common surfaces.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

10.02.01	knowledge of abrasives
10.02.02	knowledge of fastening procedures
10.02.03	ability to sand common surfaces
10.02.04	ability to determine common surfaces
10.02.05	ability to determine need for corrosion protection such as weld through primer
10.02.06	ability to use cleaning products

Sub-task

10.03 Test fits panels.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

10.03.01	knowledge of methods for fastening a panel for test fitting
10.03.02	ability to align to adjacent panels
10.03.03	ability to identify and correct imperfections in fit

Sub-task

10.04 Installs panel.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

10.04.01	knowledge of vehicle construction

10.04.02	knowledge of bonding materials and their properties
10.04.03	ability to use attaching procedures such as welding, bonding and mechanical fastening
10.04.04	ability to fit panel
10.04.05	ability to use bonding materials
10.04.06	ability to perform welding techniques such as GMAW (MIG) welding and resistance spot welding
10.04.07	ability to use fasteners such as bolts, screws, nuts, clips, pins and bushings
10.04.08	ability to apply seam sealers
10.04.09	ability to apply sound deadeners such as sprays and pads

BLOCK D

GLASS

Trends: *Increasing presence of electronic technology embedded in and attached to glass. More attention to standards related to installation, handling and removal.*

Task 11 Replaces structural glass.

Related Components: Interior and exterior trim, wipers, antennas, electric defrost.

Tools and Equipment: Standard tool kit, cut out knives (pneumatic, electric, hand), utility knives, razor blades and holder, air blow gun, heat gun, vacuum, stands, primer applicators, applicator gun, suction cups, piano wire, gloves, tapes.

Sub-task

11.01 Prepares surfaces.

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

Supporting Knowledge & Abilities

11.01.01	knowledge of glass removal techniques
11.01.02	knowledge of structural glass applications
11.01.03	knowledge of bonding and priming material specifications such as expiry date and drying times
11.01.04	knowledge of types of bonding materials
11.01.05	ability to identify contamination
11.01.06	ability to clean surfaces
11.01.07	ability to apply primers such as pinch weld primers and glass primers
11.01.08	ability to apply bonding material such as urethane

Sub-task

11.02 Installs structural glass. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

11.02.01	knowledge of types of structural glass such as tempered and laminated
11.02.02	knowledge of glass handling techniques such as suction cups and gloves
11.02.03	knowledge of glass identification such as NAGS and OEM
11.02.04	knowledge of structural glass options such as antenna, heated glass, rain sensors and heads-up display
11.02.05	knowledge of types of urethane
11.02.06	ability to apply urethane bead
11.02.07	ability to perform test fit
11.02.08	ability to perform final fit
11.02.09	ability to fit mouldings

Sub-task

11.03 Repairs laminated glass. **Supporting Knowledge & Abilities**

(NOT COMMON CORE)

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	no	no	yes	no	yes	yes	no	no	yes	no	NV

11.03.01	knowledge of types of repair equipment
11.03.02	ability to determine glass repairability
11.03.03	ability to use repair equipment

Task 12 Replaces non-structural glass.

Related Components: Interior and exterior trim, glass hardware.

Tools and Equipment: Standard tool kit, rope, hook tools, locking strip tools, spacing blocks.

Sub-task

12.01 Removes non-structural glass.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

12.01.01	knowledge of types of non-structural glass
12.01.02	knowledge of removal techniques
12.01.03	knowledge of component operation
12.01.04	knowledge of types of fasteners
12.01.05	ability to remove trim and components such as speakers, door pads and vapour barriers
12.01.06	ability to handle and store glass

Sub-task

12.02 Removes debris.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

12.02.01	knowledge of types of glass
12.02.02	knowledge of location of debris
12.02.03	knowledge of safety equipment and procedures
12.02.04	ability to perform cleaning techniques such as sweeping, vacuuming and blowing

Sub-task

12.03 Services hardware. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

12.03.01	knowledge of hardware components such as regulators, window guides, channel guides and latches
12.03.02	ability to identify defective hardware
12.03.03	ability to remove and replace defective hardware
12.03.04	ability to lubricate components
12.03.05	ability to repair and align hardware
12.03.06	ability to perform operational check

Sub-task

12.04 Installs non-structural glass. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

12.04.01	knowledge of glass components
12.04.02	knowledge of bonding agents such as urethane and butyl
12.04.03	ability to use installation techniques with materials such as lock, rubber, bolt and rivet
12.04.04	ability to use specialty tools
12.04.05	ability to install trim
12.04.06	ability to perform operational check and alignment

BLOCK E

MECHANICAL AND ELECTRICAL COMPONENTS

Trends: *Increased complexity of electronics and mechanical components. Mechanical components have become an integral part of the unibody design.*

Task 13 Repairs and replaces mechanical components.

Related Components:

Suspension/steering system: control arms, tie rods, rack and pinion, shocks, struts, ball joints, steering box, idler arms, steering column, steering wheel, sway bars, springs, shackles, road wheels, steering knuckles, bearings, tires, centre link, steering dampers, bushings.

Drive train: engine, transmission, axle, c/v joints, differentials, drive shaft.

Exhaust system: muffler, manifold, exhaust pipe, tail pipe, catalytic converter, resonator, hangers, clamps, sensors.

Air intake system: air cleaners, assemblies.

Fuel system: fuel pump, fuel injectors, tank, fuel lines, spark plugs, throttle body, sending units, emergency shut-off switch, filters.

Heating/cooling system: condenser, compressor, evaporator, lines, case, heater core, radiator, transmission coolers, power steering coolers, engine oil coolers, dryers, intercoolers, fans, shrouds, water pump, belts, pulleys, hoses, refrigerant, coolant.

Braking system: wheel cylinders, pads, shoes, drums, anti-lock brake systems (ABS), rotors, calipers, master cylinder, proportioning valves, brake tubing, brake hoses, wiring, brake fluid, sensors.

Accessories: wipers, winches, cruise control, traction control, compressors.

Tools and Equipment: Safety and first aid equipment, standard tool kit, hydraulic jacking equipment, specialty tools (press, ball joint remover, spring compressor, fuel storage unit, surge protector), welding and cutting equipment, heating equipment, measuring equipment.

Sub-task

13.01 Removes mechanical components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

13.01.01	knowledge of manufacturers' removal procedures
13.01.02	ability to perform manufacturers' procedures
13.01.03	ability to identify components to be removed
13.01.04	ability to operate specialty tools
13.01.05	ability to lift and secure vehicle and components
13.01.06	ability to store components

Sub-task

13.02 Cleans mechanical components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

13.02.01	knowledge of component material
13.02.02	knowledge of cleaners and cleaning procedures
13.02.03	ability to operate cleaning equipment
13.02.04	ability to determine reusability of components
13.02.05	ability to transport and store components

Sub-task

13.03 Straightens mechanical components.

Supporting Knowledge & Abilities

(NOT COMMON CORE)

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	no	no	no	yes	yes	yes	no	yes	yes	NV

13.03.01 knowledge of manufacturers' specifications

13.03.02 ability to determine repairability of components

Sub-task

13.04 Installs mechanical components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

13.04.01 knowledge of manufacturers' specifications

13.04.02 ability to perform manufacturers' procedures

13.04.03 ability to follow installation sequence

13.04.04 ability to operate specialty tools

Task 14 Repairs and replaces electrical components.

Related Components: Lights, fans, anti-lock brake systems (ABS), power accessories, stereo, antenna, switches, gauges, sending units, battery, charging system, relays, computer, digital components (wiring harnesses).

Tools and Equipment: Safety and first aid equipment, standard tool kit, voltmeter, scanner, propane torch, heat gun.

Sub-task

14.01 Repairs damaged wires and exterior coverings.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

14.01.01	knowledge of types of wires and coverings
14.01.02	knowledge of testing equipment such as voltmeters and test lights
14.01.03	knowledge of corrosion protection
14.01.04	ability to splice, cut and solder
14.01.05	ability to determine repairability of wires
14.01.06	ability to identify damaged wires
14.01.07	ability to reapply corrosion protection
14.01.08	ability to reapply coverings such as heat shrink, loom and electrical tape

Sub-task

14.02 Cleans corroded components and connections.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

14.02.01	knowledge of cleaning tools and materials
14.02.02	knowledge of types of connectors
14.02.03	knowledge of reusability of coverings
14.02.04	ability to remove corrosion

14.02.05	ability to verify connection, ground, flow and current
14.02.06	ability to visually inspect coverings
14.02.07	ability to remove and replace coverings

Sub-task

14.03 Removes damaged electrical components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

14.03.01	knowledge of component operation
14.03.02	knowledge of removal procedures such as cutting, unfastening and disconnecting
14.03.03	ability to identify damaged components
14.03.04	ability to disconnect components
14.03.05	ability to store or dispose of components

Sub-task

14.04 Installs electrical components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

14.04.01	knowledge of corrosion preventative materials
14.04.02	knowledge of manufacturers' requirements for installation of components such as computers, air bags and ABS
14.04.03	ability to splice, solder and perform electrical connections

14.04.04	ability to read electrical diagrams
14.04.05	ability to test and verify component operation
14.04.06	ability to apply corrosion preventative materials

BLOCK F

RESTRAINT SYSTEM AND INTERIOR COMPONENTS

Trends: *Air bags and seat belt restraints have become more of an integrated system. More replacement of trim, air bags and related components due to increased air bag deployment locations.*

Task 15 Repairs and replaces interior components.

Related Components: Seats, steering wheel, dash, console, headliner, door panels, visor, carpet, locks, switches, A, B and C pillar trims, seat belts, air bags, stereo, sunroof, child seat anchors, luggage nets, spare tire, accessories.

Tools and Equipment: Standard tool kit, steering wheel puller, plastic welder, refinishing tools and equipment.

Sub-task

15.01 Removes interior components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

15.01.01	knowledge of types of fasteners
15.01.02	knowledge of removal sequence
15.01.03	ability to recognize damaged components
15.01.04	ability to store components

Sub-task

15.02 Installs interior components.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

15.02.01	knowledge of types of fasteners
15.02.02	knowledge of types of interior components

15.02.03	ability to install fasteners
15.02.04	ability to follow installation sequence

Sub-task

15.03 Repairs interior components. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

15.03.01	knowledge of component composition
15.03.02	knowledge of repair products
15.03.03	knowledge of product manufacturers' procedures
15.03.04	ability to follow repair procedures
15.03.05	ability to contour components
15.03.06	ability to refinish components

Task 16 Replaces seat belt restraint systems.

Related Components: Trim, seats, doors, roof, pillar, floor, wiring, parcel shelf.

Tools and Equipment: Standard tool kit, diagnostic equipment.

Sub-task

16.01 Removes interior panels and upholstery. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

16.01.01	knowledge of types of fasteners and attaching methods
16.01.02	ability to recognize damaged components

16.01.03	ability to follow removal sequence
16.01.04	ability to store components

Sub-task

16.02 Removes seat belt restraint systems.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

16.02.01	knowledge of types of seat belt restraint systems such as active and passive
16.02.02	knowledge of mounting hardware
16.02.03	knowledge of hardware removal procedure
16.02.04	ability to disconnect electrical connections
16.02.05	ability to remove mounting hardware
16.02.06	ability to follow removal sequence
16.02.07	ability to examine seat belt restraint systems

Sub-task

16.03 Installs seat belt restraint systems.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

16.03.01	knowledge of types of seat belt restraint systems such as active and passive
16.03.02	knowledge of manufacturers' specifications and installation procedures
16.03.03	knowledge of electrical connections
16.03.04	ability to install mounting hardware

	16.03.05	ability to follow installation sequence
	16.03.06	ability to verify component operation

Sub-task

16.04 Installs interior panels and upholstery.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

	16.04.01	knowledge of types of fasteners
	16.04.02	ability to follow installation sequence
	16.04.03	ability to install fasteners

Task 17 Replaces air bag systems.

Related Components: Clock spring, sensors, connectors, seat belt pre-tensioners, steering wheel, seats, dash, door panels, windshield, interior trim, wiring.

Tools and Equipment: Safety and first aid equipment, standard tool kit, steering wheel puller, diagnostic equipment, operation simulator.

Sub-task

17.01 Removes air bags.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

	17.01.01	knowledge of manufacturers' specifications and removal procedures
	17.01.02	knowledge of air bag removal hazards
	17.01.03	ability to disarm system
	17.01.04	ability to disconnect air bag and connectors according to manufacturers' specifications

Sub-task

17.02 Removes related components. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

17.02.01	knowledge of types of components
17.02.02	knowledge of manufacturers' specifications and procedures
17.02.03	ability to use specialty tools such as steering wheel puller
17.02.04	ability to locate and recognize related components

Sub-task

17.03 Replaces related components. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

17.03.01	knowledge of manufacturers' specifications and replacement procedures
17.03.02	ability to determine location and alignment of components
17.03.03	ability to install electrical components and connections

Sub-task

17.04 Installs air bags. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

17.04.01	knowledge of manufacturers' specifications and replacement procedures
17.04.02	knowledge of air bag installation hazards

17.04.03	knowledge of self-diagnostic system
17.04.04	ability to handle air bags
17.04.05	ability to install electrical components and connections

BLOCK G

REFINISHING

Trends: *Increasing use of UV technology as well as special effect colours.*

Task 18 Prepares surfaces.

Related Components: Interior and exterior body panels, bumpers, WHMIS, MSDS.

Tools and Equipment: Safety and first aid equipment, standard tool kit, sanding equipment, masking products and equipment, cleaning equipment and materials, preparation station.

Sub-task

18.01 Decontaminates area.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.01.01	knowledge of types of contaminants such as tar, sap, wax, oil, shine guard and grease
18.01.02	knowledge of procedures for handling contaminants and cleaning materials
18.01.03	ability to use cleaners such as solvents, soaps and cleaning clay
18.01.04	ability to use cleaning equipment such as pressure washer and brushes
18.01.05	ability to follow cleaning procedures
18.01.06	ability to dispose of used cleaning materials
18.01.07	ability to recognize hazards of cleaning materials

Sub-task

18.02 Sands surfaces.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.02.01	knowledge of abrasive products
18.02.02	knowledge of desired outcome
18.02.03	ability to use sanding techniques such as blocking and use of guide coats
18.02.04	ability to protect surrounding area
18.02.05	ability to prepare blend areas

Sub-task

18.03 Cleans sanded surfaces.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.03.01	knowledge of cleaning materials such as solvents and rubbing compounds
18.03.02	ability to perform cleaning techniques such as blowing and washing
18.03.03	ability to protect surrounding areas

Sub-task

18.04 Masks off surrounding area. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.04.01	knowledge of masking materials such as tape, paper, poly and foam
18.04.02	ability to perform masking techniques such as masking jambs and back masking

Task 19 Prepares and applies refinishing materials.

Related Components: Interior and exterior body panels, bumpers.

Tools and Equipment: Safety and first aid equipment, paint booth, air compressor, agitators, paint suits, paint scales, spray guns, paint database, tack cloths, drying equipment.

Sub-task

19.01 Mixes refinishing materials. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.01.01	knowledge of types of refinishing materials such as primers, sealers and topcoats
19.01.02	knowledge of manufacturers' specifications such as mixing ratios
19.01.03	knowledge of tinting procedures
19.01.04	knowledge of product quality maintenance procedures
19.01.05	knowledge of mixing hazards
19.01.06	ability to measure precise quantities
19.01.07	ability to strain materials

19.01.08	ability to dispose of environmentally sensitive materials
19.01.09	ability to store refinishing materials

Sub-task

19.02 Performs final wash and tack.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.02.01	knowledge of types of contaminants
19.02.02	knowledge of types of washing products
19.02.03	ability to clean refinishing area using techniques such as blowing, washing and tacking
19.02.04	ability to apply anti-static products
19.02.05	ability to set up paint booth

Sub-task

19.03 Applies material to surface.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.03.01	knowledge of spraying techniques such as cross and drop coating and colour and clear blending
19.03.02	knowledge of product specifications such as drying and flash times
19.03.03	ability to prime surface
19.03.04	ability to operate paint booth
19.03.05	ability to operate spray gun
19.03.06	ability to troubleshoot equipment

19.03.07	ability to clean spray equipment
19.03.08	ability to match finish such as colour, texture and type

Sub-task

19.04 *Removes masking.*

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.04.01	knowledge of types of masking material
19.04.02	knowledge of unmasking techniques and time line limitations for mask removal
19.04.03	ability to clean work area
19.04.04	ability to dispose of material

BLOCK H

DETAILING

Trends: *Consumers have higher expectations with the level of detailing service provided.*

Task 20 Details exterior.

Related Components: All exterior surfaces, WHMIS, MSDS.

Tools and Equipment: Safety and first aid equipment, power polishers, wash mitts, wash brushes, tire brushes, water hose, overspray clay, pressure washers, sandpaper, sanding equipment.

Sub-task

20.01 Polishes vehicle.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

20.01.01	knowledge of surface defects such as nibs, runs and overspray
20.01.02	ability to operate polishing equipment such as hand, electric and air-powered equipment
20.01.03	ability to remove defects
20.01.04	ability to store polishing equipment

Sub-task

20.02 Washes vehicle.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

20.02.01	knowledge of types of cleaners such as tire cleaners, exterior soap and window cleaners
20.02.02	knowledge of paint care procedures

20.02.03	ability to identify surface contaminants
20.02.04	ability to operate washing equipment such as mitts, brushes and pressure washer

Sub-task

20.03 Removes overspray. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

20.03.01	knowledge of types of overspray such as paint and undercoat
20.03.02	knowledge of topcoats and surfaces
20.03.03	ability to follow removal procedures

Task 21 Details interior.

Related Components: Seats, carpets, dash, headliners, door panels, consoles.

Tools and Equipment: Safety and first aid equipment, vacuum cleaner, blow gun, brushes, shampooer.

Sub-task

21.01 Cleans interior. **Supporting Knowledge & Abilities**

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

21.01.01	knowledge of cleaning and stain removal products
21.01.02	ability to use cleaning and stain removal tools
21.01.03	ability to use debris removal tools such as vacuum, air blower and shampooer

Sub-task

21.02 Cleans hard surfaces.

Supporting Knowledge & Abilities

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

21.02.01	knowledge of types of cleaners such as rubbing compounds and soap
21.02.02	knowledge of types of cleaning equipment
21.02.03	knowledge of surface composition
21.02.04	knowledge of cleaning precautions
21.02.05	ability to perform various cleaning techniques and procedures

APPENDICES

TOOLS AND EQUIPMENT

Safety and First Aid Equipment

air purifying respirator (charcoal)
coveralls
dust mask
ear protectors
eye wash station
face shield
fire blanket
fire extinguishers
fire hoses
first aid kit
fresh air respirator
gloves
goggles
latex gloves
respirator
safety eye wear
safety footwear

Standard Tool Kit

Allen keys
air blow guns
caulking gun
clamps
crimping tools
cut out knives (pneumatic, electric, hand)
cut-off tool
die grinder
dollies
drill
drill bits
DVOM (digital voltage ohmmeter)
files
flange tool
grinders
hack saw
hammers
heat gun
magnet
marking tools
measuring tape
metal chisels
pick
pliers
pry bars
punches
putty knife and scrapers
ratchets (air and hand)
razor blades and holder
sanders
sanding blocks
screwdrivers
slide hammer
sockets, extensions and swivels
soldering tools
specialty bits
spoons
squeegees
stands
straight edge
suction cups
tapes
test light
tin snips
tip cleaner
torque wrench
trim clip removal tools
trouble light
utility knife
vice grips
wire cutters
wire stripping tools
wire wheel brushes
wrenches

Shop Tools and Equipment

a/c tools and equipment
air chisel
air compressor
air drill
air hoses
applicator guns
ball joint remover
benches
bench grinder
body dimensional measuring equipment
calculator
centering gauges
chains
clamps and fixtures
computer and software
computerized diagnostic equipment
continuity tester
corrosion protection applicator
curing light
dent puller
digital camera
door jacks
engine lifts
fax machine
frame and unibody repair equipment
frame bench
frame flange tool
frame gauging equipment
friction jack
fuel storage unit
gun cleaner
hand sanding equipment
heating equipment
hoists
hook tools
hot/cold glass removal tools
hydraulic jacking equipment
intercom
jack stands
jacks
lasers
locking strip tools
operation simulator
piano wire
plastic repair equipment
pneumatic air chisel
pneumatic moulding remover
primer applicators
pullers
rivet gun
rope
sand blaster
scanner
seam sealer applicator
service light
spacing blocks
spot sand blaster
spring compressor
steering wheel puller
storage boxes or hangers
stretchers
structural straightening equipment
telephone
trams
ultrasonic equipment
voltmeter

Welding and Cutting Equipment

cutting torch
GMAW (MIG) welder
oxyacetylene equipment
plasma cutter
plastic welder
propane torch
resistance spot welder
surge protector
welding blankets
welding clamps
welding coveralls/apron
welding gloves
welding helmet
welding mask

Refinishing and Detailing Equipment

agitators
brushes
computerized mixing system
drying equipment (curing light)
environmentally safe disposal containers
eraser wheel
gun wash station
isocyanate venting system
masking equipment
microfiches
mixing tools
overspray clay
paint application equipment
paint booth
paint database
paint measuring sticks
paint mixing machine
paint scales
spray guns
paint suits
power polishers
preparation station
pressure applicators
primer application equipment
sanding equipment
sandpapers
solvent recycler
solvent resistant gloves
strainers
tack cloths
test cards

Cleaning Equipment

blow gun
brooms
brushes
chamois
pressure washers
razor blades
shampooer
shovels
soap
tire brushes
vacuum cleaner
wash brushes
wash mitts
water hose

GLOSSARY

abrasives	material used for cleaning or surface roughening such as sand, aluminium oxide or silicone carbide.
active restraint systems	mainly standard type seat belt systems which must be engaged by the individual.
air bags	refers to inflatable restraints located in steering wheels, dashes, seats, doors, pillars, roof rails, and headliners.
Block A Occupational Skills	repetitive general skills for many tasks performed by a motor vehicle body repairer.
Block B Frame and Structural Components	provides the vehicle with strength and structural integrity.
Block C Outer Body Panels	portions of a motor vehicle that are attached to the frame or structural components of the vehicle by welding, bonding or by mechanical attachments.
Block D Glass	a hard transparent substance that is laminated or tempered and sometimes tinted. Motor vehicle glass can be fixed as in windshields and rear windows or moveable as in side windows.
Block E Mechanical and Electrical Components	mechanical components consists of the moving parts that produce motion or a state of balance including suspension systems (steering and suspension), cooling systems, air conditioning systems, brake systems, the power train and the exhaust system. Electrical components are designed to perform a specific function (e.g. radio, defrost, cruise control) or to generate, store and distribute electricity (e.g. battery, charging system, relays).
Block F Restraint Systems and Interior Components	restraint systems consist of passive or reactive safety components which provide occupants with injury protection in the event of a collision. Interior components consists of trim, upholstery and panels within the vehicle.
Block G Refinishing	provides a smooth and level surface upon which paint will adhere, by sanding, filling, cleaning and priming the surface prior to the application of a final colour coat.
Block H Detailing	all activities performed for final preparation for delivery to the customer; detailing includes but is not limited to installation of trim and accessories, cleaning and polishing.

conventional frame motor vehicle	a motor vehicle consisting of a rigid, heavy frame to which all mechanical and body components are fastened.
glass hardware	glass hardware consists of moveable and adjustable parts and components that ensure the operation of moveable glass and consists of but is not limited to tracks, glass run channels, plastic guides, stops and regulators.
passive restraint systems	passive restraint systems include components such as dash, pads, head rest, collapsible steering columns and knee bolsters, motorized seat belts.
structural components	any primary-stress-bearing portion of the body structure that affects its over-the-road performance or crash-worthiness.
structural glass	a specific type of glass with a special design and installation process that adds to the structural integrity of the vehicle.
substrate	the surface that is to be finished (painted); can be anything from an old finish or primer to an unpainted surface.
unibody motor vehicle	vehicle design in which parts of the body structure serve as support for overall vehicle.
unitized sub-frame motor vehicle	a unitized body frame that incorporates front or rear bolt on frame section.

ACRONYMS

ABS	Antilock Brake System
GMAW	Gas Metal Arc Welding (also called MIG welding)
MIG welding	Metal Inert Gas Welding (also called GMAW)
MSDS	Material Safety Data Sheet
NAGS	National Auto Glass Society (Standardized Glass Numbering System)
OEM	Original Equipment Manufacturer
PPE	Personal Protective Equipment
WHMIS	Workplace Hazardous Materials Information System

BLOCKS AND TASKS WEIGHTING

BLOCK A OCCUPATIONAL SKILLS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	15	10	10	13	15	5	6	18	5	25	10	13	NV	12%

Task 1 Uses documentation.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	13	23	16	13	15	20	14	7	10	25	20	15	NV	16%

Task 2 Uses tools and equipment.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	26	25	20	22	25	30	31	58	30	30	30	25	NV	29%

Task 3 Organizes work.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	19	20	20	15	15	10	13	5	20	18	10	15	NV	15%

Task 4 Applies corrosion protection material.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	13	15	16	20	15	10	14	8	10	8	10	15	NV	13%

Task 5 Repairs and replaces trim.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	14	10	16	20	15	20	18	13	10	14	20	18	NV	16%

Task 6 Performs final check.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	15	7	12	10	15	10	10	9	20	5	10	12	NV	11%

BLOCK B FRAME AND STRUCTURAL COMPONENTS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	20	25	17	20	25	25	23	20	20	20	20	19	NV	21%

Task 7 Repairs structural components.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	53	60	55	50	50	60	60	60	50	50	50	60	NV	55%

Task 8 Replaces structural components.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	47	40	45	50	50	40	40	40	50	50	50	40	NV	45%

BLOCK C OUTER BODY PANELS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	15	20	16	13	17	15	20	18	20	20	10	24	NV	17%

Task 9 Repairs panels.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	50	60	60	54	60	70	50	51	50	40	60	60	NV	55%

Task 10 Replaces panels.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	50	40	40	46	40	30	50	49	50	60	40	40	NV	45%

BLOCK D GLASS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	7	8	10	10	8	10	8	5	3	4	5	6	NV	7%

Task 11 Replaces structural glass.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	53	65	70	60	65	70	60	55	50	30	60	50	NV	57%

Task 12 Replaces non-structural glass.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	47	35	30	40	35	30	40	45	50	70	40	50	NV	43%

BLOCK E MECHANICAL AND ELECTRICAL COMPONENTS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	8	12	10	15	2	10	11	7	15	10	15	6	NV	10%

Task 13 Repairs and replaces mechanical components.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	50	75	50	54	100	50	50	63	50	70	50	60	NV	60%

Task 14 Repairs and replaces electrical components.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	50	25	50	46	0	50	50	37	50	30	50	40	NV	40%

BLOCK F RESTRAINT SYSTEM AND INTERIOR COMPONENTS

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	8	7	10	13	3	10	11	7	10	7	10	7	NV	9%

Task 15 Repairs and replaces interior components.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	33	20	20	30	40	10	20	30	10	35	20	30	NV	25%

Task 16 Replaces seat belt restraint systems.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	30	30	40	30	30	30	30	29	45	30	40	30	NV	33%

Task 17 Replaces air bag systems.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	37	50	40	40	30	60	50	41	45	35	40	40	NV	42%

BLOCK G REFINISHING

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	17	15	17	9	25	20	16	20	25	10	20	19	NV	18%

Task 18 Prepares surfaces.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	50	50	60	44	40	50	40	60	50	100	30	60	NV	53%

Task 19 Prepares and applies refinishing materials.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	50	50	40	56	60	50	60	40	50	0	70	40	NV	47%

BLOCK H DETAILING

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	National Average
%	10	3	10	7	5	5	5	5	2	4	10	6	NV	6%

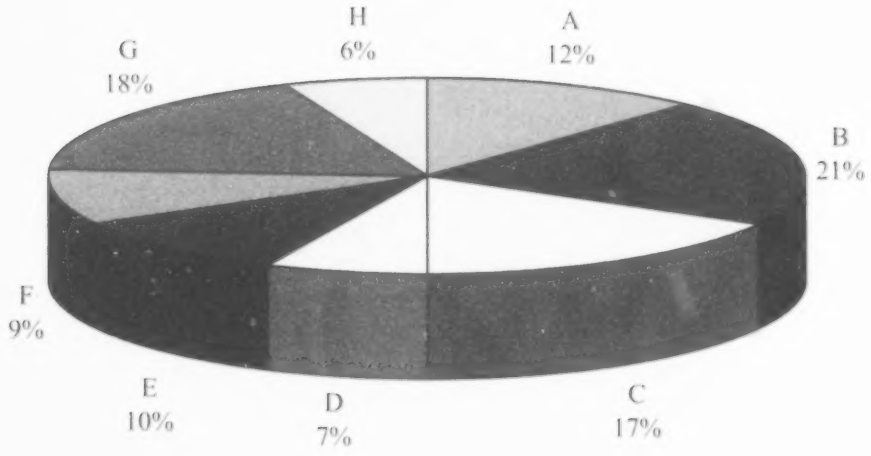
Task 20 Details exterior.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	53	60	55	55	50	75	65	57	50	70	80	65	NV	61%

Task 21 Details interior.

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU	
%	47	40	45	45	50	25	35	43	50	30	20	35	NV	39%

PIE CHART*



TITLES OF BLOCKS

Block A Occupational Skills

Block B Frame and Structural Components

Block C Outer Body Panels

Block D Glass

Block E Mechanical and Electrical Components

Block F Restraint System and Interior Components

Block G Refinishing

Block H Detailing

* Average percentage of the total number of questions on an interprovincial examination, assigned to assess each block of the analysis, as derived from the collective input from workers within the occupation from all areas of Canada. Interprovincial examinations typically have from 100 up to 150 multiple-choice questions on each examination.

TASK PROFILE CHART – MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) (2005)

BLOCKS	TASKS	SUB-TASKS
A OCCUPATIONAL SKILLS	1. Uses documentation.	1.01 Uses manufacturers' specifications and repair procedures. / 1.02 Interprets estimates. / 1.03 Uses work orders. / 1.04 Interprets safety and environmental regulations.
	2. Uses tools and equipment.	2.01 Uses hand tools. / 2.02 Uses power tools. / 2.03 Uses welding equipment. / 2.04 Uses straightening equipment. / 2.05 Uses lifting equipment. / 2.06 Uses measuring equipment. / 2.07 Uses refinishing tools and equipment. / 2.08 Uses personal protective equipment (PPE).
	3. Organizes work.	3.01 Prepares damage estimate. / 3.02 Orders parts and materials. / 3.03 Organizes parts and materials. / 3.04 Communicates with others. / 3.05 Prepares work area. / 3.06 Maintains safe work environment.
	4. Applies corrosion protection material.	4.01 Applies weld through primer. / 4.02 Applies corrosion protection for electrical components. / 4.03 Applies corrosion inhibitors.
	5. Repairs and replaces trim.	5.01 Removes trim. / 5.02 Installs trim. / 5.03 Repairs trim.
	6. Performs final check.	6.01 Inspects vehicle visually. / 6.02 Performs operational check. / 6.03 Conducts road test.
B FRAME AND STRUCTURAL COMPONENTS	7. Repairs structural components.	7.01 Performs vehicle setup. / 7.02 Identifies extent of damage. / 7.03 Removes components for access. / 7.04 Straightens structural components. / 7.05 Verifies measurement and fit. / 7.06 Installs components.
	8. Replaces structural components.	8.01 Removes structural components. / 8.02 Installs structural components.

MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) (2005)

	BLOCKS	TASKS	SUB-TASKS				
C	OUTER BODY PANELS	9. Repairs panels.	9.01 Prepares panels for repair.	9.02 Reshapes panels.	9.03 Aligns panels.	9.04 Applies repair materials.	9.05 Shapes repair materials.
		10. Replaces panels.	10.01 Removes panels.	10.02 Prepares common surfaces.	10.03 Test fits panels.	10.04 Installs panel.	
D	GLASS	11. Replaces structural glass.	11.01 Prepares surfaces.	11.02 Installs structural glass.	11.03 Repairs laminated glass. (NOT COMMON CORE)		
		12. Replaces non-structural glass.	12.01 Removes non-structural glass.	12.02 Removes debris.	12.03 Services hardware.	12.04 Installs non-structural glass.	
E	MECHANICAL AND ELECTRICAL COMPONENTS	13. Repairs and replaces mechanical components.	13.01 Removes mechanical components.	13.02 Cleans mechanical components.	13.03 Straightens mechanical components. (NOT COMMON CORE)	13.04 Installs mechanical components.	
		14. Repairs and replaces electrical components.	14.01 Repairs damaged wires and exterior coverings.	14.02 Cleans corroded components and connections.	14.03 Removes damaged electrical components.	14.04 Installs electrical components.	
F	RESTRAINT SYSTEM AND INTERIOR COMPONENTS	15. Repairs and replaces interior components.	15.01 Removes interior components.	15.02 Installs interior components.	15.03 Repairs interior components.		
		16. Replaces seat belt restraint systems.	16.01 Removes interior panels and upholstery.	16.02 Removes seat belt restraint systems.	16.03 Installs seat belt restraint systems.	16.04 Installs interior panels and upholstery.	

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BLOCKS		TASKS	SUB-TASKS			
		17. Replaces air bag systems.	17.01 Removes air bags.	17.02 Removes related components.	17.03 Replaces related components.	17.04 Installs air bags.
G	REFINISHING	18. Prepares surfaces.	18.01 Decontaminates area.	18.02 Sands surfaces.	18.03 Cleans sanded surfaces.	18.04 Masks off surrounding area.
		19. Prepares and applies refinishing materials.	19.01 Mixes refinishing materials.	19.02 Performs final wash and tack.	19.03 Applies material to surface.	19.04 Removes masking.
H	DETAILING	20. Details exterior.	20.01 Polishes vehicle.	20.02 Washes vehicle.	20.03 Removes overspray.	
		21. Details interior.	21.01 Cleans interior.	21.02 Cleans hard surfaces.		